

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/053111

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D249/22 C07D249/20 C07F5/04 C07D405/14 C09K11/06
H05B33/14 H01L51/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D C07F C09K H05B H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 03/105538 A (CIBA SPECIALTY CHEMICALS HOLDING INC.) 18 December 2003 (2003-12-18) claims 1-10	1-4, 6-13
X	US 4 533 612 A (H. EILINGSFELD ET AL.) 6 August 1985 (1985-08-06) cited in the application claims 1-14	1-4, 6-13
Y	EP 0 866 110 A (TOYO INK MANUFACTURING CO., LTD.) 23 September 1998 (1998-09-23) cited in the application claims 1-10	1-4, 6-13
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

9 May 2005

Date of mailing of the international search report

02.09.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Herz, C

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 518 824 A (D. FUNHOFF ET AL.) 21 May 1996 (1996-05-21) cited in the application columns 5-9; claims 1-20; example 2	1-4,6-13
X	US 5 104 740 A (M. SHINKAI ET AL.) 14 April 1992 (1992-04-14) cited in the application claim 4	1-4,6-13
X	EP 0 418 385 A (SHIONOGI & CO., LTD.) 27 March 1991 (1991-03-27) claims 1,2	1-4,6-13
Y	US 5 116 708 A (Y. SHIKATANI ET AL.) 26 May 1992 (1992-05-26) cited in the application column 4, line 30	1-4,6-13
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327512 Database accession no. 286124,23014 abstract & CHMATAL ET AL.: COLLECT. CZECH. CHEM. COMMUN., vol. 24, 1959, page 494,	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327513 Database accession no. 310010 abstract & CRIPPA ET AL.: GAZZ. CHIM. ITAL., vol. 57, 1927, page 753,	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327514 Database accession no. 557484,617782,4916078,155862,184724 abstract & J. GARMATTER, A. E. SIEGRIST: HELV. CHIM. ACTA, vol. 57, 1974, pages 945-979,	1-4,6-9
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327515 Database accession no. 167844 abstract & ELBS: J. PRAKT. CHEM., <2>, vol. 108, 1924, page 223,</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327516 Database accession no. 146520 abstract & FRIES ET AL.: JUSTUS LIEBIGS ANN. CHEM., vol. 511, 1934, page 213,</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327517 Database accession no. 28432 abstract & WILLGERODT, HERZOG: J. PRAKT. CHEM. <2>, vol. 71, 1905, page 396,</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327518 Database accession no. 205560 abstract & KROLLPFEIFER ET AL.: JUSTUS LIEBIGS ANN. CHEM., vol. 515, 1935, page 119,</p>	1-4,6-9
X	<p>DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327519 Database accession no. 167842 abstract & P. ZANIRATO: J. CHEM. SOC. CHEM. COMMUN., vol. 19, 1983, pages 1065-1067,</p>	1-4,6-9
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327520 Database accession no. 25415 abstract & JOSHI, GUPTA: J. INDIAN CHEM. SOC., vol. 35, 1958, page 681, -----	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327521 Database accession no. 20521 abstract & CHARRIER: GAZZ. CHIM. ITAL., vol. 40, 1910, page 138, -----	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327522 Database accession no. 13989 abstract & POSKOCIL, ALLAN: COLLECT. CZECH. CHEM. COMMUN., vol. 22, 1957, page 548, -----	1-4,6-9
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327523 Database accession no. 7652458,554679,550543,545489,7488704 abstract & R. N. BUTLER ET AL.: J. CHEM. SOC. PERKIN TRANS. 1, no. 7, 1997, pages 1047-1050, -----	1-4,6,7
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327524 Database accession no. 8506620 abstract & A. R. KATRITZKY ET AL.: HETEROCYCLES, vol. 52, no. 1, 2000, pages 203-214, ----- -/-	1-4,6-9

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; XP002327525 Database accession no. 554478 abstract & O. IWAMOTO: YUKI GOSEI KAGAKU KYOKAISHI, vol. 23, 1965, page 51, -----	1-4,6-9
X	P. LOPEZ-ALVARODO ET AL.: "New Synthetic Applications of Arylaed Triacetates. N-Arylation of Azoles" J. ORG. CHEM., vol. 60, no. 17, 1995, pages 5678-5682, XP002327511 *Scheme 1 - compound of formula 11 *	1-4,6-9
X	G. YASUDA, H. KIMOTO: "Substitution Reactions of Phenanthro'9,10-d!triazole with Benzyl Chlorides" J. HETEROCYCL. CHEM., vol. 35, 1998, pages 365-369, XP002327533 * Compounds of formula 2 *	1-4,6-9

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-3 (all part), 4, 6 (part), 7 (part), 8, 9, 10 (part), 11 (part)
12 (part), 13 (part)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3 (all part), 4, 6 (part), 7 (part), 8, 9, 10 (part), 11 (part), 12 (part), 13 (part)

2H-Benzotriazole compounds of formula I

2. claims: 1-3 (all part), 5, 6 (part), 7 (part), 10 (part), 11 (part), 12 (part), 13 (part)

2H-Benzotriazole compounds of formula II

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03105538	A	18-12-2003	AU 2003238442 A1 BR 0311615 A CA 2487430 A1 WO 03105538 A1 EP 1520450 A1	22-12-2003 08-03-2005 18-12-2003 18-12-2003 06-04-2005
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